



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,843	11/26/2003	John David Terry	1899.002US1	9283
21186	7590	03/24/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH			HANNON, CHRISTIAN A	
1600 TCF TOWER			ART UNIT	PAPER NUMBER
121 SOUTH EIGHT STREET			2618	
MINNEAPOLIS, MN 55402			DATE MAILED: 03/24/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,843	TERRY, JOHN DAVID	
	Examiner Christian A. Hannon	Art Unit 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 26 November 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-45 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-45 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 26 November 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6/6/05</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10, 29, 44 & 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the hold command" in the first line of the claim.

There is insufficient antecedent basis for this limitation in the claim. It is the examiners opinion that this should be a dependent stemming from claim 9, as claim 9 introduces "a hold command," the examiner is treating the claim in this manner for examination purposes, appropriate correction is required.

Claim 29 recites the limitation "the transmitting subsystem" in the first line of the claim. There is insufficient antecedent basis for this limitation in the claim. It is the examiners opinion that this should be dependent stemming from claim 28, as claim 28 introduces "a transmitting subsystem," the examiner is treating the claim in this manner for examination purposes, appropriate correction is required.

Claim 44 recites the limitation "the wireless signal" in the first line of the claim. However since in claim 31, which claim 44 depends from, reads "wireless signals" in the third line of the claim, it is indefinite as to which particular single wireless signal (singular) this is referring.

Claim 45 recites the limitation "the wireless signal" in the first line of the claim. However since in claim 31, which claim 44 depends from, reads "wireless signals" in the third line of the claim, it is indefinite as to which particular single wireless signal (singular) this is referring.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 7-16, 20-26, 28, 31, 32, 36-41 & 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Eriksson et al (US 6,563,891), herein Eriksson.

Regarding claim 1, 14 & 31 Eriksson teaches a receiver (Figure 3; Eriksson) comprising a detector to acquire a wireless signal (Column 9, Lines 28-38; Eriksson) an automatic gain control to provide gain for the acquired wireless signal (Figure 3, Item 60; Eriksson) and a control unit having programmable acquisition, hold and release parameters to manage the acquisition and gain of the wireless signal based on a transmission protocol (Figure 3, Item 106/107; Column 9, Lines 44-49; Column 13, Lines 22-67; Column 14, Lines 1-32; Eriksson). The examiner is interpreting the various modes to be synonymous with the claims language describing protocols, wherein the

acquisition, hold and release, relating to a beginning, duration, and end, are inherent properties of a finite time frame in which the modes various gains are applied. Furthermore it is noted that claims 14 & 31's system and respective method read analogous to claim 1, and are therefore rejected on the same grounds.

With regard to claims 2 & 15, Eriksson teaches the receiver & system of claims 1 & 14, respectively, wherein the control unit is programmed with a plurality of sets of acquisition, hold, and release parameters, each set related to a different transmission protocol (Column 13, Lines 32-37; Eriksson). The examiner is interpreting the various modes to be synonymous with the claims language describing protocols, wherein the acquisition, hold and release, relating to a beginning, duration, and end, are inherent properties of a finite time frame in which the modes various gains are applied. Furthermore it is noted that claim 15 is an analogous 'system' claim to that of claim 2, and is rejected similarly.

In regards to claims 3, 16 & 32, Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is programmed with a plurality of sets of acquisition, hold and release parameters, each set related to a different transmitting unit. Eriksson teaches that in a Hierarchical Cellular System (HCS) the multiple received signals can be indicative of each HCS transmitter each with their own necessary gain associated therewith (Column 3, Lines 47-60; Eriksson). Claim 16 is rejected similarly to claim 3, as it is the respective 'system' claim to claim 3. Claim 32 is rejected as above as it is the respective 'method' claim of claim 3.

With respect to claims 7, 20 & 36, Eriksson teaches the receiver, system and method of claims 1,14 & 31 respectively, wherein the wireless signal is an RF signal (Column 1, Lines 20-22; Eriksson).

Regarding claims 8, 21 & 37, Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to regulate the automatic gain control to adjust a gain to a minimal level for detection of a wireless signal for a predetermined amount of time according to the transmission protocol (Column 6, Lines 59-66; Column 9, Lines 44-49 Eriksson). Eriksson teaches a dynamic range of receiver signal sensitivity, the dynamic range inherently having a minimal level in order to form the threshold or dynamic range. Claim 21 reads analogous to the receiver claim 8 and is rejected similarly. Claim 37 reads analogous to the receiver claim 8 and is rejected similarly.

With regard to claims 9, 22 & 38 Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to issue a hold command to the automatic gain control to maintain sensitivity for a next wireless transmission in a communication session defined by a transmission protocol that provides control and transmission information (Column 12, Lines 46-58; Eriksson). The examiner is interpreting the hold command to be analogous to setting the value "m" to that of one already in the processor.item 106/107, in order to anticipate the next wireless transmission in the communication session, based on the symbol code, or transmission control information. Claim 22 reads analogous to the receiver claim 9 and

is rejected similarly. Claim 38 reads analogous to the receiver claim 9 and is rejected similarly.

In regard to claim 10, Eriksson teaches the receiver of claim 1 in addition to wherein the hold command to the automatic gain control includes a length of time to maintain the sensitivity (Column 13, Lines 1; Eriksson). Eriksson teaches that the value 'm' interpreted in this action as the hold command is an indicator of speed, or a length of time.

With respect to claims 11, 23 & 39, Eriksson teaches the receiver, system & method of claims 1, 14 & 31 respectively, wherein the control unit is adapted to issue a hold command the automatic gain control for a predetermined gain level to minimize the acquisition time for a wireless signal for a new communication session (Column 14, Lines 22-30; Eriksson). Eriksson teaches that when an accurate prediction cannot be made it can revert to a default gain to maximize session acquisition. Claim 23 reads analogous to the receiver claim 11 and is rejected similarly. Claim 39 reads analogous to the receiver claim 11 and is rejected similarly.

Regarding claims 12, 24 & 40 Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to regulate the automatic gain control to increase a sensitivity when a communication session is ended (Column 8, Lines 18-32; Column 12, Lines 30-37; Eriksson). Eriksson teaches that the gain is recalibrated at the end of a communication session in order to compensate for changes in the next sessions signal strength. Claim 24 reads analogous to the receiver

claim 12 and is rejected similarly. Claim 40 reads analogous to the receiver claim 12 and is rejected similarly.

With regard to claims 13, 25 & 41 Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to regulate the automatic gain control to increase sensitivity when a wireless signal is not present during a period in a communication session in which the transmission protocol indicates a wireless transmission is scheduled (Column 13, Lines 46-51; Eriksson). Eriksson teaches that the sensitivity is adjusted (inc. or dec.) when the device comes out of a sleep mode, where it establishes contact with a base tower, (a wireless transmission is always 'scheduled') however at first 'waking up' no wireless signal is present. Claim 25 reads analogous to the receiver claim 13 and is rejected similarly. Claim 41 reads analogous to the receiver claim 13 and is rejected similarly.

In regards to claim 26, Eriksson teaches the system of claim 14, wherein the control unit regulates the automatic gain control to adjust a gain to a minimal level to detect a wireless signal for a predetermined amount of time according to the transmission protocol to minimize unnecessary and unwanted amplification of electromagnetic interference during a data off portion of the wireless modulated transmission (Column 7, Lines 22-65; Eriksson). Eriksson teaches that based on a CDMA protocol the gain of the transmitted signal must be arranged dynamically so that when no transmission is being received at the receiver the unwanted noise is not being amplified. The predetermined time being the speed of the CDMA symbol codes.

In regards to claims 28 & 43, Eriksson teaches the system of claim 14, wherein the system further includes a transmitting subsystem (Figure 2, Item 103; Eriksson).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-6, 17-19, 27, 30, 33-35 & 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Rembrand et al (US 2004/0234089).

Regarding claims 4-6, 17-19 & 33-35, Eriksson teaches the receiver, system & method of claims 1, 14 & 31 respectively, however Eriksson fails to explicitly teach wherein the wireless signal is a signal using an electrostatic field, magnetic field or an electromagnetic field. Rembrand et al teach use of a wireless signal that can be an electrostatic field, magnetic field or an electromagnetic field (Page 4, [0049]; Rembrand et al). It would have been obvious to modify Eriksson to include wireless compatibility for an electrostatic field, magnetic field or an electromagnetic field, such as that taught by Rembrand et al in order to broaden the applicable scope of the AGC circuit.

In regards to claims 27 & 42, Eriksson teaches the system and method of claims 14 & 31, respectively, however Eriksson fails to explicitly teach wherein the system and method further include operation in a hearing aid. Rembrand et al teach wherein the system and method further include operation in a hearing aid (Figure 6, Items 340 &

372; Page 10, [0117]; Rembrand et al). It would have been obvious to modify Eriksson to include its operation in a hearing aid in order to facilitate AGC in a hearing aid.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jacques et al (US 2002/0048267) disclose a selectively activated AGC signal measurement unit.

Baldwin et al (US 2003/0162518) disclose a rapid acquisition and tracking system for a wireless packet-based communication device.

Filipovic et al (US 2005/0130687) disclose a dynamic noise floor in a wireless device.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Christian A. Hannon
March 13, 2006


QUOCHIEN B. VUONG
PRIMARY EXAMINER